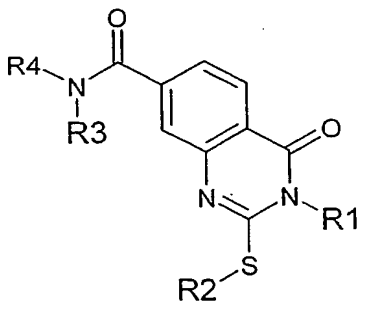
CLAIMS

1. A pharmaceutical composition comprising a pharmaceutically acceptable diluent or carrier and an active ingredient of the general formula I:



wherein:

R_1 is optionally substituted hydrocarbyl or heterocyclyl;

R_2 is H, $(C_1\text{-}C_{12})$alkyl, $(C_6\text{-}C_{14})$aryl-CH_2-, heteroaryl-CH_2-, alkylcarbonyl-CH_2-, $(C_6\text{-}C_{14})$arylcarbonyl-CH_2-, or heteroarylcarbonyl-CH_2-;

R_3 and R_4 each is selected from the group consisting of hydrogen, $C_1\text{-}C_6$ alkyl, $(C_1\text{-}C_6)$alkoxy$(C_1\text{-}C_6)$alkyl, and $C_1\text{-}C_6$ alkyl substituted by a group containing a basic nitrogen atom or by a 5-7 membered heterocyclic ring containing one or two heteroatoms, one of them being a basic nitrogen atom, or R_3 and R_4 together with the nitrogen atom to which they are attached form a 5-7 membered saturated heterocyclic ring containing one or two basic nitrogen atoms, optionally substituted on the additional nitrogen atom;

and pharmaceutically acceptable salts thereof.

2. The pharmaceutical composition according to claim 1, wherein R_1 is hydrocarbyl selected from the group consisting of $C_1\text{-}C_{12}$ alkyl, $C_2\text{-}C_{12}$ alkenyl, $C_2\text{-}C_{12}$ alkynyl, $C_3\text{-}C_{10}$ cycloalkyl, $C_3\text{-}C_{10}$ cycloalkenyl, $C_6\text{-}C_{14}$ aryl, $(C_1\text{-}C_6)$alkyl$(C_6\text{-}C_{14})$aryl, and $(C_6\text{-}C_{14})$ aryl$(C_1\text{-}C_{12})$alkyl, or such a hydrocarbyl substituted by at least one radical selected from the group consisting of $C_1\text{-}C_{10}$ alkyl, $C_2\text{-}C_{10}$ alkenyl,

C_2-C_{10} alkynyl, C_7-C_{12} aralkyl, C_6-C_{10} aryl, C_7-C_{12} alkaryl, hydroxy, C_1-C_{10} alkoxy, C_6-C_{10} aryloxy, C_1-C_{10} alkylthio, C_6-C_{10} arylthio, C_6-C_{10} arylamino, C_3-C_{10} cycloalkyl, C_3-C_{10} cycloalkenyl, amino, C_1-C_{10} alkylamino, di(C_1-C_{10})-alkylamino, C_2-C_{12} alkoxyalkyl, C_2-C_{12} alkylthioalkyl, C_1-C_{10} alkylsulfinyl, C_1-C_{10} alkylsulfonyl, C_6-C_{10} arylsulfonyl, hydroxy(C_1-C_{10})alkyl, (C_6-C_{10})aryloxy(C_1-C_{10})alkyl, (C_1-C_{10})alkoxycarbonyl, (C_6-C_{10})aryloxycarbonyl, C_2-C_{11} alkanoyl, (C_7-C_{11})aroyl, fluoro(C_1-C_{10})alkyl, oxo, nitro, nitro(C_1-C_{10})alkyl, cyano, cyano(C_1-C_{10})alkyl, aminocarbonyl, (C_1-C_{10})alkylaminocarbonyl, di(C_1-C_{10})-alkylaminocarbonyl, aminocarbonyl(C_1-C_{10})alkyl, aminocarbonyl(C_6-C_{10})aryl, aminosulfonyl, (C_1-C_{10})alkylaminosulfonyl, di(C_1-C_{10})-alkylaminosulfonyl, amidino, carboxy, sulfo, heterocyclyl, and -$(CH_2)_m$-Z-(C_1-C_{10} alkyl), where m is 1 to 8 and Z is oxygen or sulfur.

3. The pharmaceutical composition according to claim 2, wherein R_1 is pentyl, allyl, phenyl, 4-fluorophenyl, benzyl, 2-furylmethyl or (tetrahydro-2-furyl)methyl.

4. The pharmaceutical composition according to claim 1, wherein R_1 is a heterocyclyl radical derived from a mono- or poly-cyclic ring containing one to three heteroatoms selected from the group consisting of N, O and S.

5. The pharmaceutical composition according to any one of claims 1 to 4, wherein R_2 is (C_6-C_{14})aryl-CH_2- or (C_6-C_{14})arylcarbonyl-CH_2-, wherein the aryl is unsubstituted or substituted by at least one radical selected from the group consisting of C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_7-C_{12} aralkyl, C_6-C_{10} aryl, C_7-C_{12} alkaryl, hydroxy, C_1-C_{10} alkoxy, C_6-C_{10} aryloxy, C_1-C_{10} alkylthio, C_6-C_{10} arylthio, C_6-C_{10} arylamino, C_3-C_{10} cycloalkyl, C_3-C_{10} cycloalkenyl, amino, C_1-C_{10} alkylamino, di(C_1-C_{10})-alkylamino, C_2-C_{12} alkoxyalkyl, C_2-C_{12} alkylthioalkyl, C_1-C_{10} alkylsulfinyl, C_1-C_{10} alkylsulfonyl, C_6-C_{10} arylsulfonyl, hydroxy(C_1-C_{10})alkyl, (C_6-C_{10})aryloxy(C_1-C_{10})alkyl, (C_1-C_{10})alkoxycarbonyl, (C_6-C_{10})aryloxycarbonyl, C_2-

C_{11} alkanoyl, (C_7-C_{11})aroyl, fluoro(C_1-C_{10})alkyl, oxo, nitro, nitro(C_1-C_{10})alkyl, cyano, cyano(C_1-C_{10})alkyl, aminocarbonyl, (C_1-C_{10})alkylaminocarbonyl, di(C_1-C_{10})-alkylaminocarbonyl, aminocarbonyl(C_1-C_{10})alkyl, aminocarbonyl(C_6-C_{10})aryl, aminosulfonyl, (C_1-C_{10})alkylaminosulfonyl, di(C_1-C_{10})-alkylaminosulfonyl, amidino, carboxy, sulfo, heterocyclyl, and -$(CH_2)_m$-Z-(C_1-C_{10} alkyl), where m is 1 to 8 and Z is oxygen or sulfur.

6. The pharmaceutical composition according to claim 5, wherein R_2 is phenyl-CH_2-, 4-methylphenyl-CH_2-, 3-fluorophenyl-CH_2-, 4-fluorophenyl-CH_2-, 3-chlorophenyl-CH_2-, 4-chlorophenyl-CH_2-, phenylcarbonyl-CH_2-, 4-fluoro-phenylcarbonyl-CH_2-, or 4-chloro-phenylcarbonyl-CH_2-.

7. The pharmaceutical composition according to any one of claims 1 to 4, wherein R_2 is heteroaryl-CH_2- or heteroarylcarbonyl-CH_2-, wherein the heteroaryl is unsubstituted or substituted by at least one radical selected from the group consisting of C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_7-C_{12} aralkyl, C_6-C_{10} aryl, C_7-C_{12} alkaryl, hydroxy, C_1-C_{10} alkoxy, C_6-C_{10} aryloxy, C_1-C_{10} alkylthio, C_6-C_{10} arylthio, C_6-C_{10} arylamino, C_3-C_{10} cycloalkyl, C_3-C_{10} cycloalkenyl, amino, C_1-C_{10} alkylamino, di(C_1-C_{10})-alkylamino, C_2-C_{12} alkoxyalkyl, C_2-C_{12} alkylthioalkyl, C_1-C_{10} alkylsulfinyl, C_1-C_{10} alkylsulfonyl, C_6-C_{10} arylsulfonyl, hydroxy(C_1-C_{10})alkyl, (C_6-C_{10})aryloxy(C_1-C_{10})alkyl, (C_1-C_{10})alkoxycarbonyl, (C_6-C_{10})aryloxycarbonyl, C_2-C_{11} alkanoyl, (C_7-C_{11})aroyl, fluoro(C_1-C_{10})alkyl, oxo, nitro, nitro(C_1-C_{10})alkyl, cyano, cyano(C_1-C_{10})alkyl, aminocarbonyl, (C_1-C_{10})alkylaminocarbonyl, di(C_1-C_{10})-alkylaminocarbonyl, aminocarbonyl(C_1-C_{10})alkyl, aminocarbonyl(C_6-C_{10})aryl, aminosulfonyl, (C_1-C_{10})alkylaminosulfonyl, di(C_1-C_{10})-alkylaminosulfonyl, amidino, carboxy, sulfo, heterocyclyl, and -$(CH_2)_m$-Z-(C_1-C_{10} alkyl), where m is 1 to 8 and Z is oxygen or sulfur.

8. The pharmaceutical composition according to claim 7, wherein said heteroaryl is a radical derived from a mono- or poly-cyclic heteroaromatic ring

containing one to three heteroatoms selected from the group consisting of N, O and S.

9. The pharmaceutical composition according to claim 8, wherein said heteroaryl is selected from the group consisting of pyrrolyl, furyl, thienyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl thiazolyl, isothiazolyl, pyridyl, 1,3-benzodioxanyl, pyrazinyl, pyrimidinyl, 1,3,4-triazinyl, 1,2,3-triazinyl, 1,3,5-triazinyl, thiazinyl, quinolinyl, isoquinolinyl, benzofuryl, isobenzofuryl, indolyl, imidazo[1,2-a]pyridyl, pyrido[1,2-a]pyrimidinyl, benzimidazolyl, benzthiazolyl, and benzoxazolyl.

10. The pharmaceutical composition according to claim 7, wherein R_2 is 4-pyridyl-CH_2- or 4-oxo-4H-pyrido[1,2-a]pyrimidin-yl-CH_2-.

11. The pharmaceutical composition according to any one of claims 1 to 10, wherein R_3 is hydrogen and R_4 is $(C_1$-$C_6)$alkoxy$(C_1$-$C_6)$alkyl.

12. The pharmaceutical composition according to claim 11, wherein R_3 is hydrogen and R_4 is 2-methoxyethyl.

13. The pharmaceutical composition according to any one of claims 1 to 10, wherein R_3 is hydrogen and R_4 is C_1-C_6 alkyl substituted by a group containing a basic nitrogen atom selected from the group consisting of an amino group -NR_5R_6, an ammonium group -$N^+(R_5R_6R_7)$, a hydrazine group -NR_5-NR_6R_7, a hydrazonium group -NR_5-$N^+(R_6R_7R_8)$, an ammoniumoxy group -O-$N^+(R_5R_6)$, an imine group -C=NR_5R_6, an iminium group -C=$N^+(R_5R_6R_7)$, a guanidine group -NR_5-C(=NH)-NR_6R_7, and a guanidinium group -NR_5-C(=NH)-$N^+(R_6R_7R_8)$, wherein each of R_5, R_6, R_7 and R_8 is H, or optionally substituted C_1-C_{10} alkyl or C_6-C_{10} aryl.

14. The pharmaceutical composition according to any one of claims 1 to 10, wherein R_3 is hydrogen and R_4 is C_1-C_6 alkyl substituted by a 5-7 membered heterocyclic ring containing one or two heteroatoms, one of them being a basic nitrogen atom selected from the group consisting of pyrrolidine, pyrroline, pyrrol, imidazolidine, imidazoline, imidazole, piperidine, dihydropyridine, tetrahydropyridine, pyridine, 1,2-pyrazine, tetrahydropyrimidine, dihydropyrimidine, pyrimidine, 1,4-pyrazine, 1,4-tetrahydropyrazine, 1,4-dihydropyrazine, piperazine, diazepine, oxazolidine, oxazoline, oxazole, morpholino, 1,4-dihydrooxazine, 1,4-oxazine. thiazolidine, thiazoline, thiaazole, thiomorpholino, 1,4-dihydrothiazine, and 1,4-thiazine.

15. The pharmaceutical composition according to claim 14, wherein R_3 is hydrogen and R_4 is 3-(4-morpholinyl)propyl or 3-(1-piperidinyl)propyl.

16. The pharmaceutical composition according to any one of claims 1 to 10, wherein R_3 and R_4 together with the nitrogen atom to which they are attached form a 5-7 membered saturated heterocyclic ring containing one or two basic nitrogen atoms selected from the group consisting of pyrrolidine, imidazolidine, piperidine, and piperazine, and the additional nitrogen atom may be substituted by C_1-C_6 alkyl, optionally substituted by halo, hydroxy, C_1-C_6 alkoxy or C_6-C_{10} aryl, or C_2-C_7 alkoxycarbonyl.

17. The pharmaceutical composition according to claim 16, wherein R_3 and R_4 form 4-methylpiperazinyl or 1- piperazinyl-4-carboxylic acid ethyl ester.

18. The pharmaceutical composition according to claim 1, wherein the compound of Formula I is selected from the group consisting of:

2-[[(4-chlorophenyl)methyl]thio]-3-(4-fluorophenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide [Compound No. 1];

2-[[(4-methylphenyl)methyl]thio]-3-(4-fluorophenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide [Compound No. 2];

2-[[(3-fluorophenyl)methyl]thio]-3-(4-fluorophenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide [Compound No. 3];

2-[(2-oxo-2-phenylethyl)thio]-3-(4-fluorophenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide [Compound No. 5]; and

2-[[2-[[(3-chlorophenyl)methyl]thio]-3-pentyl-3,4-dihydro-4-oxo-N-(4-methylpiperazinyl)-7-quinazolinecarboxamide [Compound No. 4].

19. The pharmaceutical composition according to claim 1 wherein the compound of formula I is 2-[[(6-nitro-4H-1,3-benzodioxin-8-yl)methyl]thio]-3-(2-propenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide (Compound No. 2010).

20. The pharmaceutical composition according to claim 1 wherein the compound of formula I is 2-[[(5-acetyl-2-methoxyphenyl)methyl)thio]-3-(phenylmethyl)-3,4-dihydro-4-oxo-N-[3-(1H-imidazol-1-yl)propyl]-7-quinazolinecarboxamide (Compound No. 2011).

21. The pharmaceutical composition according to claim 1, wherein the compound of formula I is 2-[[(5-acetyl-2-methoxyphenyl)methyl]thio]-3-(phenylmethyl)-3,4-dihydro-4-oxo-N-(1-ethyl-piperidin-4-yl)-7-quinazoline-carboxamide (Compound No. 2012).

22. The pharmaceutical composition according to any one of claims 1 to 21, for the treatment or prevention of diseases, disorders or conditions related to cell adhesion or cell migration mediated by heparan sulfate glycosaminoglycans (HS-GAGs).

23. The pharmaceutical composition according to claim 22, wherein said disease, disorder or condition is an inflammatory disease, disorder or condition.

24. The pharmaceutical composition according to claim 23, wherein said inflammatory disease, disorder or condition is selected from the group consisting of atherosclerosis, septic shock, post-ischemic leukocyte-mediated tissue damage, frost-bite injury or shock, acute leukocyte-mediated lung injury, acute pancreatitis, asthma, traumatic shock, stroke, traumatic brain injury, nephritis, acute and chronic inflammation, atopic dermatitis, uveitis, and retinitis.

25. The pharmaceutical composition according to claim 22, wherein said disease, disorder or condition is an autoimmune disease.

26. The pharmaceutical composition according to claim 25, wherein said autoimmune disease is selected from the group consisting of inflammatory bowel disease, rheumatoid arthritis, psoriasis and multiple sclerosis.

27. The pharmaceutical composition according to claim 22, wherein said disease, disorder or condition is selected from the group consisting of amyloid disorders, bacterial infections, kidney diseases, cancer, tumor metastasis, platelet-mediated pathologies, viral diseases and coagulation disorders.

28. The pharmaceutical composition according to claim 27, wherein said disease, disorder or condition is selected from the group consisting of Alzheimer's disease, type II diabetes, hepatitis C, hepatitis B, influenza, rhinovirus infections, cytomegalovirus infections, AIDS, respiratory syncytial virus infections, malaria, and leukemia.

29. The pharmaceutical composition according to any one of claims 1 to 21, for modulating the anticoagulant activity of glycosaminoglycans.

30. The pharmaceutical composition according to claim 29, wherein the glycosaminoglycan is heparin.

31. The pharmaceutical composition according to any one of claims 1 to 21, capable of inhibiting the interaction of GAGs with L-selectin.

32. The pharmaceutical composition according to any one of claims 1 to 21, capable of inhibiting neutrophil infiltration in vivo.

33. Use of a compound of the general formula I in claim 1 for the preparation of a pharmaceutical composition.

34. The use according to claim 33 wherein the pharmaceutical composition is for the treatment or prevention of diseases, disorders or conditions related to cell adhesion or cell migration mediated by heparan sulfate glycosaminoglycans (HS-GAGs).

35. The use according to claim 34, wherein said disease, disorder or condition is an inflammatory disease, disorder or condition.

36. The use according to claim 35, wherein said inflammatory disease, disorder or condition is selected from the group consisting of atherosclerosis, septic shock, post-ischemic leukocyte-mediated tissue damage, frost-bite injury or shock, acute leukocyte-mediated lung injury, acute pancreatitis, asthma, traumatic shock, stroke, traumatic brain injury, nephritis, acute and chronic inflammation, atopic dermatitis, uveitis, and retinitis.

37. The use according to claim 34, wherein said disease, disorder or condition is an autoimmune disease.

38. The use according to claim 37, wherein said autoimmune disease is selected from the group consisting of inflammatory bowel disease, rheumatoid arthritis, psoriasis and multiple sclerosis.

39. The use according to claim 34, wherein said disease, disorder or condition is selected from the group consisting of amyloid disorders, bacterial infections, kidney diseases, cancer, tumor metastasis, platelet-mediated pathologies, viral diseases and coagulation disorders.

40. The use according to claim 39, wherein said disease, disorder or condition is selected from the group consisting of Alzheimer's disease, type II diabetes, hepatitis C, hepatitis B, influenza, rhinovirus infections, cytomegalovirus infections, AIDS, respiratory syncytial virus infections, malaria, and leukemia.

41. The use according to any one of claims 33 to 40, for modulating the anticoagulant activity of glycosaminoglycans.

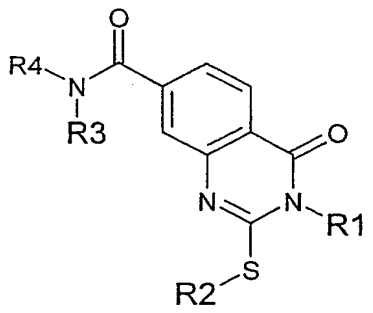
42. The use according to claim 41, wherein the glycosaminoglycan is heparin.

43. The compound 2-[[(6-nitro-4H-1,3-benzodioxin-8-yl)methyl]thio]-3-(2-propenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazoline carboxamide (Compound No. 2010).

44. The compound 2-[[(5-acetyl-2-methoxyphenyl)methyl)thio]-3-(phenyl-methyl)-3,4-dihydro-4-oxo-N-[3-(1H-imidazol-1-yl)propyl]-7-quinazoline-carboxamide (Compound No. 2011).

45. The compound 2-[[(5-acetyl-2-methoxyphenyl)methyl]thio]-3-(phenyl-methyl)-3,4-dihydro-4-oxo-N-(1-ethyl-piperidin-4-yl)-7-quinazolinecarboxamide (Compound No. 2012).

46. A method for the treatment or prevention of diseases, disorders or conditions related to cell adhesion or cell migration mediated by heparan sulfate glycosaminoglycans (HS-GAGs), comprising the step of administering to a subject in need thereof a therapeutically effective amount of a pharmaceutical composition comprising a compound of the general formula I:



wherein:

R_1 is optionally substituted hydrocarbyl or heterocyclyl;

R_2 is H, $(C_1$-$C_{12})$alkyl, $(C_6$-$C_{14})$aryl-CH_2-, heteroaryl-CH_2-, alkylcarbonyl-CH_2-, $(C_6$-$C_{14})$arylcarbonyl-CH_2-, or heteroarylcarbonyl-CH_2-;

R_3 and R_4 each is selected from the group consisting of hydrogen, C_1-C_6 alkyl, $(C_1$-$C_6)$alkoxy$(C_1$-$C_6)$alkyl, and C_1-C_6 alkyl substituted by a group containing a basic nitrogen atom or by a 5-7 membered heterocyclic ring containing one or two heteroatoms, one of them being a basic nitrogen atom, or R_3 and R_4 together with the nitrogen atom to which they are attached form a 5-7 membered saturated heterocyclic ring containing one or two basic nitrogen atoms, optionally substituted on the additional nitrogen atom;

and pharmaceutically acceptable salts thereof.

47. The method according to claim 46, wherein R_1 is hydrocarbyl selected from the group consisting of C_1-C_{12} alkyl, C_2-C_{12} alkenyl, C_2-C_{12} alkynyl, C_3-C_{10} cycloalkyl, C_3-C_{10} cycloalkenyl, C_6-C_{14} aryl, $(C_1$-$C_6)$alkyl$(C_6$-$C_{14})$aryl, and $(C_6$-$C_{14})$ aryl$(C_1$-$C_{12})$alkyl, or such a hydrocarbyl substituted by at least one radical selected from the group consisting of C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_7-C_{12}

aralkyl, C_6-C_{10} aryl, C_7-C_{12} alkaryl, hydroxy, C_1-C_{10} alkoxy, C_6-C_{10} aryloxy, C_1-C_{10} alkylthio, C_6-C_{10} arylthio, C_6-C_{10} arylamino, C_3-C_{10} cycloalkyl, C_3-C_{10} cycloalkenyl, amino, C_1-C_{10} alkylamino, di(C_1-C_{10})-alkylamino, C_2-C_{12} alkoxyalkyl, C_2-C_{12} alkylthioalkyl, C_1-C_{10} alkylsulfinyl, C_1-C_{10} alkylsulfonyl, C_6-C_{10} arylsulfonyl, hydroxy(C_1-C_{10})alkyl, (C_6-C_{10})aryloxy(C_1-C_{10})alkyl, (C_1-C_{10})alkoxycarbonyl, (C_6-C_{10})aryloxycarbonyl, C_2-C_{11} alkanoyl, (C_7-C_{11})aroyl, fluoro(C_1-C_{10})alkyl, oxo, nitro, nitro(C_1-C_{10})alkyl, cyano, cyano(C_1-C_{10})alkyl, aminocarbonyl, (C_1-C_{10})alkylaminocarbonyl, di(C_1-C_{10})-alkylaminocarbonyl, aminocarbonyl(C_1-C_{10})alkyl, aminocarbonyl(C_6-C_{10})aryl, aminosulfonyl, (C_1-C_{10})alkylaminosulfonyl, di(C_1-C_{10})-alkylaminosulfonyl, amidino, carboxy, sulfo, heterocyclyl, and -$(CH_2)_m$-Z-(C_1-C_{10} alkyl), where m is 1 to 8 and Z is oxygen or sulfur.

48. The method according to claim 47, wherein R_1 is pentyl, allyl, phenyl, 4-fluorophenyl, benzyl, 2-furylmethyl or (tetrahydro-2-furyl)methyl.

49. The method according to claim 46, wherein R_1 is a heterocyclyl radical derived from a mono- or poly-cyclic ring containing one to three heteroatoms selected from the group consisting of N, O and S.

50. The method according to claim 46, wherein R_2 is (C_6-C_{14})aryl-CH_2- or (C_6-C_{14})arylcarbonyl-CH_2-, wherein the aryl is unsubstituted or substituted by at least one radical selected from the group consisting of C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_7-C_{12} aralkyl, C_6-C_{10} aryl, C_7-C_{12} alkaryl, hydroxy, C_1-C_{10} alkoxy, C_6-C_{10} aryloxy, C_1-C_{10} alkylthio, C_6-C_{10} arylthio, C_6-C_{10} arylamino, C_3-C_{10} cycloalkyl, C_3-C_{10} cycloalkenyl, amino, C_1-C_{10} alkylamino, di(C_1-C_{10})-alkylamino, C_2-C_{12} alkoxyalkyl, C_2-C_{12} alkylthioalkyl, C_1-C_{10} alkylsulfinyl, C_1-C_{10} alkylsulfonyl, C_6-C_{10} arylsulfonyl, hydroxy(C_1-C_{10})alkyl, (C_6-C_{10})aryloxy(C_1-C_{10})alkyl, (C_1-C_{10})alkoxycarbonyl, (C_6-C_{10})aryloxycarbonyl, C_2-C_{11} alkanoyl, (C_7-C_{11})aroyl, fluoro(C_1-C_{10})alkyl, oxo, nitro, nitro(C_1-C_{10})alkyl, cyano, cyano(C_1-C_{10})alkyl,

aminocarbonyl, (C_1-C_{10})alkylaminocarbonyl, di(C_1-C_{10})-alkylaminocarbonyl, aminocarbonyl(C_1-C_{10})alkyl, aminocarbonyl(C_6-C_{10})aryl, aminosulfonyl, (C_1-C_{10})alkylaminosulfonyl, di(C_1-C_{10})-alkylaminosulfonyl, amidino, carboxy, sulfo, heterocyclyl, and -$(CH_2)_m$-Z-(C_1-C_{10} alkyl), where m is 1 to 8 and Z is oxygen or sulfur.

51. The method according to claim 49, wherein R_2 is phenyl-CH_2-, 4-methylphenyl-CH_2-, 3-fluorophenyl-CH_2-, 4-fluorophenyl-CH_2-, 3-chlorophenyl-CH_2-, 4-chlorophenyl-CH_2-, phenylcarbonyl-CH_2-, 4-fluoro-phenylcarbonyl-CH_2-, or 4-chloro-phenylcarbonyl-CH_2-.

52. The method according to claim 46, wherein R_2 is heteroaryl-CH_2- or heteroarylcarbonyl-CH_2-, wherein the heteroaryl is unsubstituted or substituted by at least one radical selected from the group consisting of C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_7-C_{12} aralkyl, C_6-C_{10} aryl, C_7-C_{12} alkaryl, hydroxy, C_1-C_{10} alkoxy, C_6-C_{10} aryloxy, C_1-C_{10} alkylthio, C_6-C_{10} arylthio, C_6-C_{10} arylamino, C_3-C_{10} cycloalkyl, C_3-C_{10} cycloalkenyl, amino, C_1-C_{10} alkylamino, di(C_1-C_{10})-alkylamino, C_2-C_{12} alkoxyalkyl, C_2-C_{12} alkylthioalkyl, C_1-C_{10} alkylsulfinyl, C_1-C_{10} alkylsulfonyl, C_6-C_{10} arylsulfonyl, hydroxy(C_1-C_{10})alkyl, (C_6-C_{10})aryloxy(C_1-C_{10})alkyl, (C_1-C_{10})alkoxycarbonyl, (C_6-C_{10})aryloxycarbonyl, C_2-C_{11} alkanoyl, (C_7-C_{11})aroyl, fluoro(C_1-C_{10})alkyl, oxo, nitro, nitro(C_1-C_{10})alkyl, cyano, cyano(C_1-C_{10})alkyl, aminocarbonyl, (C_1-C_{10})alkylaminocarbonyl, di(C_1-C_{10})-alkylaminocarbonyl, aminocarbonyl(C_1-C_{10})alkyl, aminocarbonyl(C_6-C_{10})aryl, aminosulfonyl, (C_1-C_{10})alkylaminosulfonyl, di(C_1-C_{10})-alkylaminosulfonyl, amidino, carboxy, sulfo, heterocyclyl, and -$(CH_2)_m$-Z-(C_1-C_{10} alkyl), where m is 1 to 8 and Z is oxygen or sulfur.

53. The method according to claim 52, wherein said heteroaryl is a radical derived from a mono- or poly-cyclic heteroaromatic ring containing one to three heteroatoms selected from the group consisting of N, O and S.

54. The method according to claim 53, wherein said heteroaryl is selected from the group consisting of pyrrolyl, furyl, thienyl, pyrazolyl, imidazolyl, oxazolyl, isoxazolyl thiazolyl, isothiazolyl, pyridyl, 1,3-benzodioxanyl, pyrazinyl, pyrimidinyl, 1,3,4-triazinyl, 1,2,3-triazinyl, 1,3,5-triazinyl, thiazinyl, quinolinyl, isoquinolinyl, benzofuryl, isobenzofuryl, indolyl, imidazo[1,2-a]pyridyl, pyrido[1,2-a]pyrimidinyl, benzimidazolyl, benzthiazolyl, and benzoxazolyl.

55. The method according to claim 54, wherein R_2 is 4-pyridyl-CH_2- or 4-oxo-4H-pyrido[1,2-a]pyrimidin-yl-CH_2-.

56. The method according to claim 46, wherein R_3 is hydrogen and R_4 is (C_1-C_6)alkoxy(C_1-C_6)alkyl.

57. The method according to claim 56, wherein R_3 is hydrogen and R_4 is 2-methoxyethyl.

58. The method according to claim 46, wherein R_3 is hydrogen and R_4 is C_1-C_6 alkyl substituted by a group containing a basic nitrogen atom selected from the group consisting of an amino group $-NR_5R_6$, an ammonium group $-N^+(R_5R_6R_7)$, a hydrazine group $-NR_5-NR_6R_7$, a hydrazonium group $-NR_5-N^+(R_6R_7R_8)$, an ammoniumoxy group $-O-N^+(R_5R_6)$, an imine group $-C=NR_5R_6$, an iminium group $-C=N^+(R_5R_6R_7)$, a guanidine group $-NR_5-C(=NH)-NR_6R_7$, and a guanidinium group $-NR_5-C(=NH)-N^+(R_6R_7R_8)$, wherein each of R_5, R_6, R_7 and R_8 is H, or optionally substituted C_1-C_{10} alkyl or C_6-C_{10} aryl.

59. The method according to claim 46, wherein R_3 is hydrogen and R_4 is C_1-C_6 alkyl substituted by a 5-7 membered heterocyclic ring containing one or two heteroatoms, one of them being a basic nitrogen atom selected from the group consisting of pyrrolidine, pyrroline, pyrrol, imidazolidine, imidazoline, imidazole,

piperidine, dihydropyridine, tetrahydropyridine, pyridine, 1,2-pyrazine, tetrahydropyrimidine, dihydropyrimidine, pyrimidine, 1,4-pyrazine, 1,4-tetrahydropyrazine, 1,4-dihydropyrazine, piperazine, diazepine, oxazolidine, oxazoline, oxazole, morpholino, 1,4-dihydrooxazine, 1,4-oxazine. thiazolidine, thiazoline, thiaazole, thiomorpholino, 1,4-dihydrothiazine, and 1,4-thiazine.

60. The method according to claim 59, wherein R_3 is hydrogen and R_4 is 3-(4-morpholinyl)propyl or 3-(1-piperidinyl)propyl.

61. The method according to claim 46, wherein R_3 and R_4 together with the nitrogen atom to which they are attached form a 5-7 membered saturated heterocyclic ring containing one or two basic nitrogen atoms selected from the group consisting of pyrrolidine, imidazolidine, piperidine, and piperazine, and the additional nitrogen atom may be substituted by C_1-C_6 alkyl, optionally substituted by halo, hydroxy, C_1-C_6 alkoxy or C_6-C_{10} aryl, or C_2-C_7 alkoxycarbonyl.

62. The method according to claim 61, wherein R_3 and R_4 form 4-methylpiperazinyl or 1- piperazinyl-4-carboxylic acid ethyl ester.

63. The method according to claim 46, wherein the compound of Formula I is selected from the group consisting of:

2-[[(4-chlorophenyl)methyl]thio]-3-(4-fluorophenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide [Compound No. 1];

2-[[(4-methylphenyl)methyl]thio]-3-(4-fluorophenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide [Compound No. 2];

2-[[(3-fluorophenyl)methyl]thio]-3-(4-fluorophenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide [Compound No. 3];

2-[(2-oxo-2-phenylethyl)thio]-3-[(tetrahydro-2-furyl)methyl]-3,4-dihydro-4-oxo-N-[3-(1-piperidinyl)propyl]-7-quinazolinecarboxamide [Compound No. 5];

2-[[2-[[(3-chlorophenyl)methyl]thio]-3-pentyl-3,4-dihydro-4-oxo-N-(4-methylpiperazinyl)-7-quinazolinecarboxamide [Compound No. 4].

64. The method according to claim 46, wherein the compound of formula I is 2-[[(6-nitro-4H-1,3-benzodioxin--8-yl)methyl]thio]-3-(2-propenyl)-3,4-dihydro-4-oxo-N-[3-(4-morpholinyl)propyl]-7-quinazolinecarboxamide(Compound No. 2010).

65. The method according to claim 46, wherein the compound of formula I is 2-[[(5-acetyl-2-methoxyphenyl)methyl)thio]-3-(phenylmethyl)-3,4-dihydro-4-oxo-N-[3-(1H-imidazol-1-yl)propyl]-7-quinazolinecarboxamide (Compound No. 2011).

66. The method according to claim 46, wherein the compound of formula I is 2-[[(5-acetyl-2-methoxyphenyl)methyl]thio]-3-(phenylmethyl)-3,4-dihydro-4-oxo-N-(1-ethyl-piperidin-4-yl)-7-quinazolinecarboxamide (Compound No. 2012).

67. The method according to claim 46, wherein said disease, disorder or condition is an inflammatory disease, disorder or condition.

68. The method according to claim 67, wherein said inflammatory disease, disorder or condition is selected from the group consisting of atherosclerosis, septic shock, post-ischemic leukocyte-mediated tissue damage, frost-bite injury or shock, acute leukocyte-mediated lung injury, acute pancreatitis, asthma, traumatic shock, stroke, traumatic brain injury, nephritis, acute and chronic inflammation, atopic dermatitis, uveitis, and retinitis.

69. The method according to claim 67, wherein said disease, disorder or condition is an autoimmune disease.

70. The method according to claim 69, wherein said autoimmune disease is selected from the group consisting of inflammatory bowel disease, rheumatoid arthritis, psoriasis and multiple sclerosis.

71. The method according to claim 46, wherein said disease, disorder or condition is selected from the group consisting of amyloid disorders, bacterial infections, kidney diseases, cancer, tumor metastasis, platelet-mediated pathologies, viral diseases and coagulation disorders.

72. The method according to claim 71, wherein said disease, disorder or condition is selected from the group consisting of Alzheimer's disease, type II diabetes, hepatitis C, hepatitis B, influenza, rhinovirus infections, cytomegalovirus infections, AIDS, respiratory syncytial virus infections, malaria, and leukemia.

73. A method for modulating the anticoagulant activity of glycosaminoglycans which comprises administering to a subject in need a therapeutically effective amount of a compound of the general formula I in claim 46.

74. The method according to claim 73, wherein the glycosaminoglycan is heparin.